

5 **APPARATUS AND METHOD FOR THE TRANSPARENT
UPGRADING OF TECHNOLOGY AND APPLICATIONS IN
DIGITAL RADIO SYSTEMS USING PROGRAMMABLE
TRANSMITTERS AND RECEIVERS**

10 **ABSTRACT OF THE DISCLOSURE**

15 In a digital radio system including a transmitter unit and at least one receiver unit,
changes to the system can implemented without modifying the hardware components by
providing the transmitter unit and the receiver unit with processing capability. With respect
to the transmitter unit, the principal function of the processing capability is to modify the
encoding of the transmitted signal stream. The processing capability of the receiver unit
provides the ability to identify when the decoding algorithms are not compatible with the
transmitted signal stream. The decoding algorithms of receiver unit can be updated to be
20 compatible with transmitted signals in several different embodiments. According to one
embodiment, the updated decoding algorithm can be transmitted to the receiver unit along
with, or in place of, the program signal stream. The programmable processor of the receiver
unit identifies the decoder algorithm signal stream and installs the decoder algorithm in the
programmable processor. In this embodiment of the invention, the upgrade of the receiver
25 unit can be transparent to the user. The upgrade of the receiver unit can also be accomplished
by manual intervention by the user.